

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of the Claims

1. (Original) A method of controlling the crystalline structure of ingots and castings of ferrous and non-ferrous metals, in which the melt is crystallized in helically traveling magnetic fields excited by *m*-phase systems of helical alternating currents, wherein said currents are hierarchically frequency- and amplitude-modulated, wherein said modulation is superimposed on said *m*-phase systems of currents in the form of pulses with a certain periodically repeated duration in time.

2. (Original) A method of controlling the crystalline structure according to claim 1, wherein said systems of currents frequency- and amplitude-modulated by said method are periodically switched on for a certain time interval and switched off with a certain time interval.

3. (Original) A method of controlling the crystalline structure according to claim 1 or 2, wherein in the process of continuous or semi-continuous casting, amplitude modulation depth and frequency deviation are periodically changed in time.

4. (Original) A method of controlling the crystalline structure according to claim 1 or 2, wherein in the process of casting stationary ingots and castings, amplitude modulation depth and frequency deviation are growing with increasing thickness of the crystallizing solid phase.

5-31. (Cancelled).